



Impact of Corrosion on Ground Vehicles: Program Review, Issues and Solutions

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Report Documentation Page		Form Approved OMB No. 0704-0188			
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1. REPORT DATE FEB 2010	2. REPORT TYPE	3. DATES COVERED 00-00-2010 to 00-00-2010			
4. TITLE AND SUBTITLE Impact of Corrosion on Ground Vehicles: Program Review, Issues and Solutions		5a. CONTRACT NUMBER			
		5b. GRANT NUMBER			
		5c. PROGRAM ELEMENT NUMBER			
6. AUTHOR(S)		5d. PROJECT NUMBER			
		5e. TASK NUMBER			
		5f. WORK UNIT NUMBER			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Tank-Automotive Comd -TARDEC-RDECOM,RDTA-EN/ME,6501 E Mile Rd,Warren,MI,48397-5000		8. PERFORMING ORGANIZATION REPORT NUMBER			
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)			
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)			
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES 2010 U.S. Army Corrosion Summit, Huntsville, AL, 9-11 Feb					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF: a. REPORT b. ABSTRACT c. THIS PAGE unclassified unclassified unclassified			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 15	19a. NAME OF RESPONSIBLE PERSON



TACOM/TARDEC Corrosion Program Lifecycle Focus



Influence future design & acquisition

- Design with corrosion in mind
- Adoption of new technology
- Programmatic reviews

Improve current production, repair, upgrades

- Identify product and process improvements
- Materials & coatings improvements

Protect fielded fleet

- Coatings & inhibitors
- Controlled environments
- Vehicle assessments

Bottom Line: - Keep readiness rates up - Keep costs down



Today's Discussion

Fielded Fleet



TACOM/TARDEC CPAC

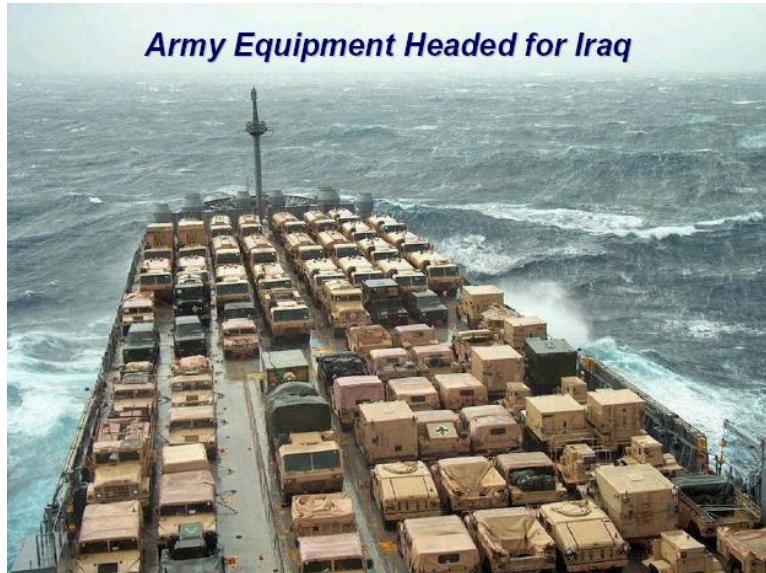
Current Program

Issues and Solutions

Protect Fielded Assets

Future Plans

Army Equipment Headed for Iraq

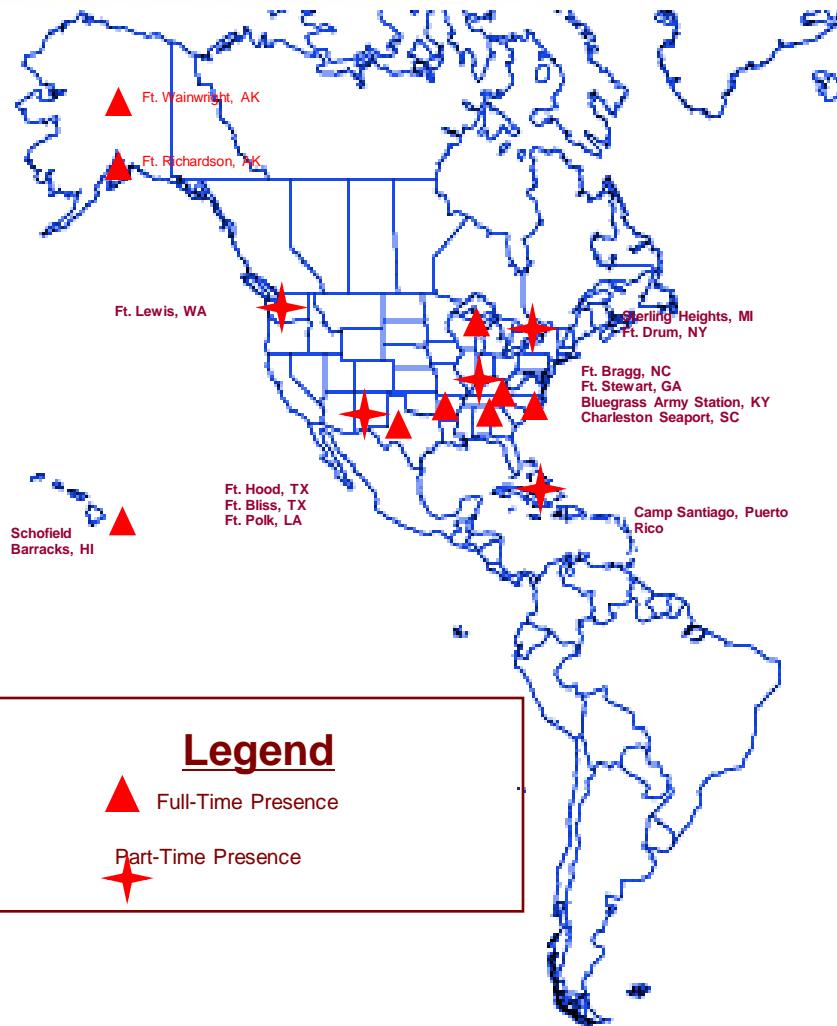




CPAC Current Program Fielded Fleet – Program elements



- **Corrosion prevention training for design engineers**
 - Corrosion resistant materials
 - New Design considerations
 - Improved finishing techniques
- **New paint and application techniques**
 - Water based CARC and Primer
 - Cartridge application technologies
- **Controlled humidity protection**
 - Humidity controlled buildings
 - Humidity controlled systems for individual units
 - Protective covers/bags
- **CPAC Field Teams**
 - Corrosion Service Teams (CST) - worldwide
 - Repair initial stages of corrosion
 - Application of corrosion preventive compounds
 - Identify Environmentally friendly Corrosion prevention compounds



Legend

- ▲ Full-Time Presence
- ★ Part-Time Presence



Fixed and Mobile System Sites

CPC application

- Ft. Polk; Ft. Hood; Schofield Barracks; Okinawa, Japan; Camp Carroll, South Korea; Ft. Bragg, Ft. Stewart, Charleston Seaport, and special deployment locations (Ft. Lewis, Kentucky Bluegrass Station)
- Treated 64,773 pieces of equipment since FY 2007

Surface Preparation and Repairs

- 6,442 pieces of equipment since FY 07
- Surface preparation, prime, and paint at all CPAC locations.

Developed Mobile Corrosion System



Chassis frames rust through

Trailer floors cannot support load

Suspensions/brakes lose performance capabilities

Insufficient or non-existent wash facilities.

Frozen/rusted wheel lug nuts

Battery maintenance. Terminal corrosion.





Not Mission Ready

Accidents

Reduced Readiness Rates

Negates CARC Paint Performance





Controlled Humidity Building

100,000 Sq Ft capacity approximately 250 MRAPs

Controlled Humidity Motor Pool System

- One system capacity approximately 20 Strykers





Storage Bagging systems

- Shrink wrap
- Sealed bags
- 5 sided bag
- Different storage duration times
- One time use or re-usable



THE CORROSION SERVICE TEAM

Step 1: Clean/Wash Equipment



Step 2: Surface Preparation /Paint



Step 3: Preservation



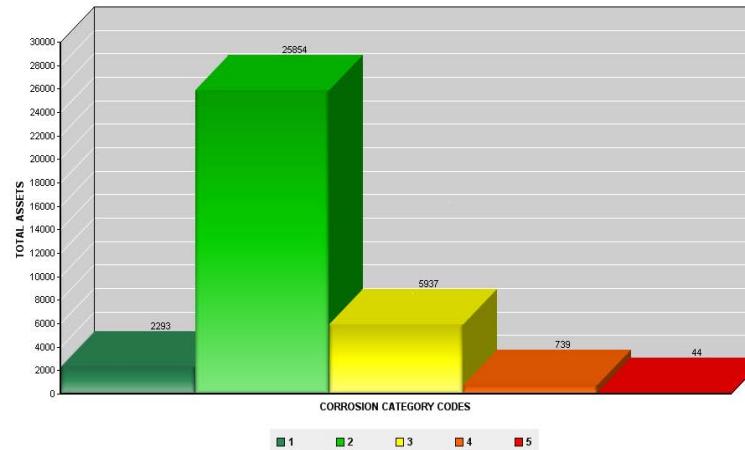
Step 4: Inspection/Assessment





Web based system

- Records of every piece of equipment processed
 - Accessible by the soldiers
 - Updated nightly



Sample chart from the database.

Continue to expand our presence at Army locations

Team with AMCOM for Patriot Missile Systems – Korea/Japan
Support emerging FORSCOM requirements

Support Rapid Deployment of Equipment

Provide support to the Army National Guard

Provide support to the Army Reserves

Implement corrosion mitigation projects

Improve corrosion data collection and analysis



Corrosion:

- A known, verifiable performance and readiness degrader
- Results in billions of dollars of maintenance and repair annually

CPAC Program:

- Is a Non-Intrusive process affecting day to day operations
- An established program blending safety and environmental protection
- Provides training in prevention techniques
- Performs repair and treatment on site

Program Requirements:

Greater Army-wide Acceptance

Focus on Total Life Cycle Costs

Growing Culture Shift